

Serial No.: 10/578,144
Filed: May 3, 2006
Response to Office Action dated May 8, 2008

The following Listing of Claims will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS:

1. (Original) A timepiece comprising:
a time display to display time information; and
a driving power source driving said time display and having a spring including a titanium alloy containing one or more vanadium group (Group Va) elements with an average Young's modulus of 100 GPa or less and a tensile strength of 1000 MPa or greater.
2. (Original) The timepiece according to claim 1, wherein
said spring has a circular cross section with a diameter of 0.05 mm or greater.
3. (Original) The timepiece according to claim 1, wherein
said spring has a rectangular cross section with a thickness of 0.01 mm or greater and
a width of 0.05 mm or greater.
4. (Original) The timepiece according to claim 1, wherein
said spring is made of nonmagnetic material.
5. (Original) The timepiece according to claim 1, wherein
said spring is a mainspring whose freely spread-out shape is an S shape.
6. (Original) The timepiece according to claim 5, wherein
said spring has an inner end at an end of a winding side, and an outer end at the other
end, and said S shape has an inflection point at which a curving direction changes and which
is formed farther inward than a midpoint between said inner end and said outer end.

Serial No.: 10/578,144

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7. (Original) The timepiece according to claim 6, wherein said power source has a barrel stem to which said inner end is fixed, a barrel gear to which said outer end is fixed, and a power generator having a rotor that is rotatably driven in conjunction with said barrel gear.

8. (Original) The timepiece according to claim 1, wherein said titanium alloy contains 20 to 80 mass% of said vanadium group elements per a total of 100 mass% of said titanium alloy.

9. (Original) The timepiece according to claim 8, wherein said titanium alloy contains 30 to 60 mass% of said vanadium group elements per a total of 100 mass% of said titanium alloy.

10. (Original) The timepiece according to claim 1, wherein said titanium alloy contains one or more metal elements from the group consisting of zirconium Zr, hafnium Hf, and scandium Sc.

11. (Original) The timepiece according to claim 10, wherein said titanium alloy contains 30 to 60 mass% of said metal element groups per a total of 100 mass% of said titanium alloy.

12. (Original) The timepiece according to claim 1, wherein said titanium alloy contains one or more of the elements oxygen O, carbon C, and nitrogen N.

13. (Original) The timepiece according to claim 12, wherein said titanium alloy contains 2 mass% or less of one or more of the elements oxygen O, carbon C, and nitrogen N per a total of 100 mass% of said titanium alloy.

14. (Original) The timepiece according to claim 1, wherein

Serial No.: 10/578,144

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said titanium alloy contains boron (B).

15. (Original) The timepiece according to claim 14, wherein said titanium alloy contains 2 mass% or less of boron B per a total of 100 mass% of said titanium alloy.

16. (Original) The timepiece according to claim 1, wherein said titanium alloy contains one or more metal elements from the group consisting of chromium Cr, molybdenum Mo, manganese Mn, iron Fe, cobalt Co, nickel Ni, tin Sn, and aluminum Al.

17. (Original) The timepiece according to claim 1, wherein said average Young's modulus is 60 GPa or less, and said tensile strength is 1000 MPa or greater.

18. (Original) The timepiece according to claim 1, wherein said spring is configured from a single plate.

19. (Original) The timepiece according to claim 1, wherein said spring is configured from a laminated plate wherein a plurality of titanium alloy plate-shaped members is laminated and integrated.

20. (Original) A timepiece comprising:
a time display to display time information; and
a power source driving said time display and having a first and second spring including a titanium alloy containing one or more vanadium group (Group Va) elements, with an average Young's modulus of 100 GPa or less and a tensile strength of 1000 MPa or greater, said first and second springs jointly drive the time display.

Serial No.: 10/578,144

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21. (Original) The timepiece according to claim 20, said titanium alloy contains 20 to 80 mass% of the vanadium group elements per a total of 100 mass% of the titanium alloy.

22. (Original) The timepiece according to claim 20, wherein said titanium alloy contains one or more metal elements from the group consisting of zirconium Zr, hafnium Hf, and scandium Sc.

23. (Original) The timepiece according to claim 20, wherein said titanium alloy contains one or more of the elements oxygen O, carbon C, and nitrogen N.

24 - 31. (Canceled).